

# Soil Porosity Lab

**Purpose:** To determine the porosity of various soils

**Materials:** 4 small paper cups, sand, gravel, clay, and a mixture of sand, clay and gravel; graduated cylinder

**Procedure:**

1. Fill the first paper cup about three-fourths full of sand. Fill the second with clay, the third with gravel, and the fourth with the mixture.
2. Fill the graduated cylinder with water to the 500 mL level. Slowly pour water into the first cup. Let the water seep through the sand. Slowly add more water until a pool of water is visible at the surface of the sand. At this point the soil can hold no more water.
3. Find out the amount of water you added to the sand by subtracting the amount of water left in the graduated cylinder from 500 mL. Write your answer in the chart.
4. Repeat steps 2 and 3 for the cups of clay, gravel, and mixture.

**Observations:**

Soil	Amount of water added to soil
Sand	
Clay	
Gravel	
Mixture	

**Analysis and Conclusion:**

1. Which soil sample is able to hold the most water? the least?
2. What can you conclude about the porosity of the soils?
3. Why can some soils hold more water than others?
4. Which of the above soil samples do you think best approximates the type of soil you might find on your school grounds?